above, and recently approved for 50 years and above. The aim of present study was to evaluate the cost-effectiveness of implementing HZ vaccination program for adults at age 50 years versus 60 years in Hong Kong from the perspective of society. **METHODS:** A Markov model was designed to compare the clinical and economic outcomes of a hypothetical cohort of 50-year-old adults with (1) no HZ vaccination, (2) vaccination at 50-year-old, and (3) vaccination at 60-year-old. Model inputs were retrieved from literature. HZ-associated total costs (direct and indirect costs) and quality-adjusted life years (QALYs) loss were outcome measures of the model. Sensitivity analyses were conducted to examine the robustness of model results. **RESULTS:** In base-case analysis, the two vaccination strategies were more costly with less QALY loss than no vaccination. Comparing to no vaccination, incremental cost-effectiveness ratio (ICER) of vaccinating at 50 and 60 years old were HKD175,397 per QALY saved and HKD190,174 per QALY saved, respectively (USD1=HKD7.8). All-cause death rate and prevalence of HZ were two potential influential factors on the base-case results. In 10,000 Monte Carlo simulations, the probability of HZ vaccination at 50-year-old to be the preferred option was 98.2% of time, using the gross domestic product per capita in Hong Kong (HKD297,360) as threshold of willingness-to-pay. **CONCLUSIONS:** HZ vaccination for adults aged 50-year-old in Hong Kong seems to be the preferred option when compared to vaccination at 60-year-old and no vaccination.

PIN47

COST-EFFECTIVENESS OF PNEUMOCOCCAL VACCINATION OF ELDERLY IN GERMANY

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OBJECTIVES: In Germany, vaccination of infants with a 13-valent pneumococcal conjugate vaccine (PCV13) and of individuals >=60 years with a 23-valent pneumococcal polysaccharide vaccine (PPSV23) is recommended to prevent pneumococcal diseases. Recently, PCV13 was also approved for individuals >=50 years. The study assesses the cost-effectiveness of four vaccination strategies targeting adults >=60 years in Germany: no vaccination, vaccination with PCV13 only, vaccination with PPSV23 only, and sequential-vaccination (PCV13+PPSV23). **METHODS:** A susceptible-infected-susceptible type model based on ordinary differential equations was developed to capture the dynamic transmission of pneumococcal carriage. The model compartments were further stratified by age- and pneumococcal serotype-groups. Model parameters were either retrieved from the literature or obtained by fitting against local incidence data. The epidemiological impact of childhood PCV13-vaccination (herd and serotype replacement effects) on incidence and serotype mix among adults as well as components of the four adult vaccination strategies was implemented in the model. A health-economic model was built to compute the incremental cost-effectiveness ratios (ICER) per QALY using German cost data. The robustness of the model results was assessed through sensitivity analyses regarding uncertain input data. **RESULTS:** In the base case, the ICER of PPSV23 vs. no vaccination was €24,085/QALY. Immunization with PCV13 alone was dominated by PPSV23-vaccination. Sequential vaccination vs. PPSV23 vaccination resulted in €400,528/QALY. Main reason for the higher ICERs of the latter two strategies was a sharp decline in PCV13-serotypes prevalence among adults as an indirect result of infant PCV13-vaccination. Sensitivity analyses identified the effectiveness of PPSV23 against non-invasive pneumococcal pneumonia to have a substantial impact on the model results and be a major source of uncertainty due to the heterogeneity in reported effectiveness/efficacy data. **CONCLUSIONS:** From a health economic perspective, PPSV23 would be the preferred vaccine to be used for the prevention of pneumococcal disease in adults in Germany.

PIN48

COST-EFFECTIVENESS OF 18 MONTH BOOSTER DOSE OF A PERTUSSIS-CONTAINING VACCINE ON THE AUSTRALIAN NATIONAL IMMUNISATION PROGRAM: A DYNAMIC MODEL-BASED ANALYSIS

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OBJECTIVES: Assess the cost-effectiveness of the reinstatement (stopped in 2003) of an 18-month booster dose of diphtheria, tetanus and acellular pertussis (DTPa-18-month) vaccine on the National Immunisation Program (NIP) in Australia, focusing on pertussis prevention. **METHODS:** The economic evaluation was conducted in two stages: (a) the annual epidemiological effect of the vaccination was assessed at steady state with an age-stratified, compartmental dynamic population model calibrated on Australian pertussis sero-incidence data, allowing estimation of under-reporting of pertussis using published notification rates, (b) evaluation of total costs and quality adjusted life years (QALYs) associated with pertussis cases using a static decision tree model. Two scenarios were compared: the current DTP vaccination schedule (2, 4, 6 months; 4 years; 12 years) with and without DTPa-18-month (coverage 83%; effectiveness 88%). Direct medical costs, from a payer perspective, and pertussis related QALYs lost were generated via data retrieved from the literature and Australian tariffs. A discount rate of 5% was applied to costs and outcomes, and a 100-year time horizon used. The pertussis cases, hospitalization, costs and QALYs were estimated and compared between strategies. One-way sensitivity analyses were conducted on the incremental cost-effectiveness ratio (ICER) by varying key parameters. **RESULTS:** DTPa-18-month was projected to prevent 1.3 million symptomatic pertussis cases; 2,762 hospitalizations; gaining 22,430 QALYs at an increased cost of $70,667,758. The predicted ICERs were; $54 per symptomatic pertussis case avoided, $3,151 per QALY gained, and $25,590 per hospitalization avoided. Most benefit was incurred by the target population, aged <4 years. Infectiousness level, pertussis incidence rate, vaccine cost, administration fee and utility loss for unreported cases were predicted to have the largest effect on the ICER. **CONCLUSIONS:** Reintroduction of DTPa-18-month in the Australian NIP was demonstrated to be a cost-effective strategy.

PIN49

COST-EFFECTIVENESS OF 13-VALENT PNEUMOCOCCAL CONJUGATE VACCINE AMONG PATIENTS AGED 65-84 YEARS WITH CO-MORBIDITIES OR IMMUNOSUPPRESSION IN BELGIUM

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OBJECTIVES: In adults, the incidence of S. pneumoniaeinfections and the related mortality increase with age and co-morbidities. The Belgian Superior Health Council recommends use of 13-valent pneumococcal conjugate vaccine (PCV13) in adults with elevated risk of pneumococcal diseases. PCV13 has recently proven efficacious in preventing pneumococcal pneumonia and invasive pneumococcal disease (IPD) in the elderly. We investigated the cost-effectiveness of vaccinating the 65-84 y. old cohort (n=862,188) that suffer from co-morbidities or immunosuppression **METHODS:** A cohort model with a Markov-type process was developed to project the lifetime risks and related costs of IPD and nonbacteremic pneumococcal pneumonia. Input data came from various sources (literature, existing databases, and observational studies) and were reviewed by a panel of Belgian experts. PCV13 effectiveness was derived from the recently published CAPiTA clinical trial results for the first 5 years. Protection gradually declined thereafter to zero by year 16. Belgian National Health perspective was taken with costs and quality-adjusted life years (QALYs), discounted annually by 3% and 1.5%, respectively. Sensitivity analyses on key parameters were performed in order to test the robustness of model findings. **RESULTS:** 58% vaccination coverage with PCV13 in 65-84 year olds suffering from co-morbidities or immunosuppression is expected to prevent 6,798 cases of pneumococcal disease, and 911 disease-related deaths over lifetime compared to no vaccination. PCV13 vaccination cost was fully offset by reduction in disease-related costs (€61 million), and thus was overall cost-saving. In the one-way sensitivity analysis, results were most sensitive to PCV13 price and parameters related to inpatient pneumonia. In probabilistic sensitivity analysis, PCV13 dominated the no vaccination strategy in 97% of the simulations. **CONCLUSIONS:** PCV13 vaccination of the 65-84 year-old cohort in Belgium would prevent a substantial number of cases and deaths from severe pneumococcal disease and be cost-saving from a healthcare perpective .

PIN50

HERPES ZOSTER AND POST-HERPETIC NEURALGIA VACCINATION- COST-EFFECTIVENESS ANALYSIS IN PORTUGAL

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OBJECTIVES: Herpes Zoster (HZ) and its most common complication, Post-Herpetic Neuralgia (PHN), are painful and debilitating conditions with an important burden for patients and society. A live-attenuated one-dose vaccine was licensed in 2006 for the prevention of both HZ and PHN in adults 50+ years old and is currently recommended and part of vaccination calendars in several countries. The objective of this study was to assess the cost-effectiveness of zoster vaccination for the 50+ population in Portugal. **METHODS:** An existing European Markov cohort model was adapted to the Portuguese healthcare setting. Health states considered are healthy, HZ, PHN, healthy post-HZ and death. HZ and PHN states are further split by pain severity (mild, moderate or severe). According to local guidelines, the cost-effectiveness outcomes were assessed from the societal perspective for a public reimbursement at 37%. Analysis comparing a HZ vaccination for adults aged ≥50 years with no vaccination was done. Input data were obtained from Portuguese sources whenever available. **RESULTS:** The strategy of vaccinating adults 50+ years old showed an incremental cost-effectiveness ratio of 19.625€ per quality adjusted life year (QALY) gained from a societal perspective. The analysis showed cost-effectiveness improvement with age with an ICER in the 65+ population of 15.517€/QALY from the societal perspective. The probabilistic sensitivity analyses showed that for high levels of certainty (95%) the ICER does not exceed 25.000€/QALY from the societal perspective. **CONCLUSIONS:** Considering the generally acceptable threshold, the present cost-effectiveness analysis demonstrates that HZ vaccination for adults 50+ years old in Portugal is a cost-effective strategy. Vaccine reimbursement would provide substantial health, social and economic benefits in the Portuguese health care context.

PIN51

PHARMACOECONOMIC ANALYSIS OF ANIDULAFUNGIN, MICAFUNGIN, CASPOFUNGIN AND FLUCONAZOLE IN THE TREATMENT OF CANDIDEMIA AND/OR INVASIVE CANDIDIASIS IN NON-NEUTROPENIC ADULT PATIENTS IN SPAIN

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OBJECTIVES: To estimate the cost-effectiveness of three candins (anidulafungin, caspofungin, and micafungin) and generic fluconazole in the treatment of non-neutropenic adult patients with candidemia and/or invasive candidiasis (IC) in intensive care units (ICU) in Spain. **METHODS:** A decision tree model was performed. The success (clinical and microbiological response) and safety (hepatic and renal adverse effects) of first-line treatments were obtained from meta-analyses and systematic reviews of clinical trials. In the case of failure, a second-line treatment (liposomal amphotericin B after the candins, or one of the candins after fluconazole) was administered. The duration of the treatments (14 days total) was established by IDSA guidelines. The cost of the medications and renal toxicity were considered. Deterministic and probabilistic sensitivity analysis using Monte Carlo simulations were carried out. **RESULTS:** The total cost of the treatment of candidemia and/or invasive candidiasis with anidulafungin, caspofungin, micafungin, and fluconazole was € 5483, € 5968, € 6231, and € 2088, respectively. Anidulafungin was the dominant treatment (more effective, less expensive) compared to micafungin and